

## CLAIMS

What is claimed is:

1. A spring support system for furniture, said spring support system comprising:

at least one rigid support member;

at least one notch in said support member; and

at least one spring attached to said support member proximate said notch, said spring being supported by said support member, and a portion of said spring being compressed into said notch when said spring is compressed.

2. The spring support system of claim 1, further comprising a noise abatement layer positioned in said notch, said layer preventing direct contact between said spring and side walls of said notch during compression of said spring.

3. The spring support system of claim 2, wherein said layer is one of cotton, Dacron fiber, polyurethane foam and fabric.

4. The spring support system of claim 2, wherein said at least one notch is one of a plurality of notches and said layer is a continuous piece that extends along said support member and is positioned in each notch in said support member.

5. The spring support system of claim 2, wherein said at least one notch is one of a plurality of notches, said layer is a plurality of discrete pieces, and each of said discrete pieces is positioned in at least one of said notches in said support member.

6. The spring support system of claim 2, wherein said layer prevents direct contact between said spring and a top surface of said support member proximate said notch during compression of said spring.

7. The spring support system of claim 1, wherein said at least one support member is one of a plurality of support members, each of said support members has at least one notch, said at least one spring includes a spring for each of said notches in said support members, and top portions of each of said springs are interconnected together by a cord.

8. The spring support system of claim 7, wherein a majority of said top portions of said springs are 8-way hand tied together.

9. The spring support system of claim 1, further comprising a hole in said support member on each side of said notch and wherein said spring is attached to said support member by a portion of said spring passing entirely through one of said holes and at least partially through the other of said holes.

10. The spring support system of claim 9, wherein said portion of said spring passes entirely through both of said holes.

11. The spring support system of claim 10, wherein said portion of said spring that passes through said other hole is restrained to inhibit removal of said portion of said spring from said other hole.

12. The spring support system of claim 1, further comprising a groove in said support member on each side of said notch and wherein said spring is attached to said support member by a portion of said spring residing in said grooves on each side of said notch.

13. The spring support system of claim 1, wherein a portion of each side wall of said notch taper away from each other as said side walls extend from a bottom of said notch toward a top surface of said support member.

14. The spring support system of claim 1, wherein said support member is at least one of a hardwood, a softwood, an engineered wood and a polymer.

15. A piece of furniture comprising:  
a frame having a seating area; and  
a spring support system in said seating area, said spring support system including:

at least one rigid support member fixedly attached to said frame and extending across said seating area;

at least one notch in said support member;

at least one spring attached to said support member proximate said notch, said spring being supported by said support member, and a portion of said spring being compressed into said notch when said spring is compressed.

16. The piece of furniture of claim 15, wherein said frame includes a front rail, a rear rail and a two side rails that extend between said front and rear rails, said rails generally defining a periphery of said seating area, and said support member is fixedly attached to and extends between two of said rails.

17. The piece of furniture of claim 16, wherein said support member is fixedly attached to and extends between said front and rear rails.

18. The piece of furniture of claim 16, wherein said support member is fixedly attached to and extends between said two side rails.

19. The piece of furniture of claim 15, wherein said spring support system includes a noise abatement layer positioned in said notch and said layer prevents direct contact between said spring and side walls of said notch during compression of said spring.

20. The piece of furniture of claim 19, wherein said at least one notch is one of a plurality of notches and said layer is a continuous piece that extends along said support member and is positioned in each notch in said support member.

21. The piece of furniture of claim 19, wherein said at least one notch is one of a plurality of notches, said layer is a plurality of discrete pieces, and each of said discrete pieces is positioned in at least one of said notches in said support member.

22. The piece of furniture of claim 19, wherein said layer prevents direct contact between said spring and a top surface of said support member proximate said notch during compression of said spring.

23. The piece of furniture of claim 15, wherein said at least one support member is one of a plurality of support members, each of said support members has at least one notch, said at least one spring includes a spring for each of said notches in said support members, and top portions of each of said springs are interconnected together by a cord.

24. The piece of furniture of claim 15, wherein said spring support system further includes a hole in said support member on each side of said notch and said spring is attached to said support member by a portion of said spring passing entirely through one of said holes and at least partially through the other of said holes.

25. The piece of furniture of claim 24, wherein said portion of said spring passes entirely through both of said holes.

26. The piece of furniture of claim 15, wherein said spring support system further includes a groove in said support member on each side of said notch and said spring is attached to said support member by a portion of said spring residing in said grooves on each side of said notch.

27. The piece of furniture of claim 15, wherein a portion of each side wall of said notch taper away from each other as said side walls extend from a bottom of said notch toward a top surface of said support member.

28. The spring support system of claim 1, wherein said support member is at least one of a hardwood, a softwood, an engineered wood and a polymer.

29. A method of manufacturing a piece of furniture, the method comprising:

- (a) providing a frame for the piece of furniture, said frame having a seating area;
- (b) attaching a rigid support member having at least one notch to said frame with said support member extending across said seating area; and
- (c) attaching a spring to said support member proximate said notch.

30. The method of claim 29, further comprising attaching a noise abatement layer to said support member prior to performing (c), said layer being attached in a position between said spring and said notch with said layer preventing direct contact between said notch and said spring when said spring is being compressed.

31. The method of claim 30, wherein attaching said layer includes attaching a continuous noise abatement layer to said support member with said layer being position in each notch on said support member.

32. The method of claim 30, wherein attaching said layer includes attaching a plurality of discrete pieces of said layer to said support member with each of said discrete pieces being positioned in at least one of said notches in said support member.



33. The method of claim 29, wherein (a) includes providing a frame with a front rail, a rear rail, and two side rails that extend between said front and rear rails and (b) includes fixedly attaching said support member to two of said rails.

34. The method of claim 33, wherein (b) includes fixedly attaching said support member to said front and rear rails.

35. The method of claim 33, wherein (b) includes fixedly attaching said support member to said side rails.

36. The method of claim 29, wherein said at least one notch is one of a plurality of notches, (c) includes attaching a spring to said support member proximate each of said notches, and further comprising interconnecting top portions of each of said springs with a cord.

37. The method of claim 29, wherein said support member includes a hole on each side of said notch and (c) includes positioning a portion of said spring entirely through one of said holes and at least partially through the other of said holes thereby attaching said spring to said support member.

38. The method of claim 37, wherein (c) includes positioning said portion of said spring entirely through both of said holes.

39. The method of claim 29, wherein said support member includes a groove on each side of said notch and (c) includes positioning a portion of said spring in said grooves on each side of said notch.